

REMARKS

Claims remaining in the present patent application are Claims 1-37. The Applicants respectfully request consideration of the above captioned patent application in light of the remarks presented herein.

Allowable Material

The Official Action indicates that Claims 12 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants thank the Examiner for indicating allowable material.

35 U.S.C. § 102 Rejections

Claims 1-2, 4-10, 22-23, 25-31 and 33-37 stand rejected under 35 USC § 102(a/e) as allegedly being anticipated by Barnett et al. (US 6,223,144 "Barnett"). Applicants have carefully reviewed the cited reference and respectfully assert that Barnett does not anticipate or render obvious embodiments of the present invention as recited in Claims 1-2, 4-10, 22-23, 25-31 and 33-37.

Applicants respectfully assert that Barnett does not teach or suggest the limitation of “selecting available configurations of said hardware resources of said microcontroller” as recited by Claim 1. In accordance with Barnett, a user specifies a microcontroller. The description of such microcontroller is fixed, e.g., preferably implemented as a DLL (column 6 lines 34-35), and Barnett is silent as to any method or operation of “selecting available configurations” of such microcontroller.

In section 17, the rejection improperly equates “interfac(ing) the tool to selected hardware configurations” with the recited “selecting available configurations of said hardware resources of said microcontroller” as recited by Claim 1. As shown in Barnett Figure 2A, a DLL 210 corresponding to a microcontroller, e.g., Intel’s 8051, can be selected. However, Barnett is silent as to any selecting of available configurations of such microcontroller once such a pre-existing DLL configuration is selected.

For these reasons, Applicants respectfully assert that Claim 1 overcomes the objections of record, and respectfully solicit allowance of this Claim.

In addition with respect to Claim 1, Applicants respectfully assert that Barnett does not teach or suggest the limitation of “selecting available configurations of said hardware resources of said microcontroller” as recited by Claim 1. Applicants respectfully assert that the rejection improperly equates

Barnett's "selected hardware configuration" (col. 6 line 60) with the recited "configurations of said hardware resources of said microcontroller."

Applicants respectfully assert that Barnett utilizes the term "selected hardware configuration" to refer to a selection of a particular microprocessor, e.g., "such as Intel's 8051" (col. 6 lines 14-15). In contrast, Claim 1 recites "selecting available configurations" of one instant device - the recited "said microcontroller." However, Barnett is silent as to selecting from among multiple available configurations of a single microcontroller.

For this additional reason, Applicants respectfully assert that Claim 1 overcomes the objections of record, and respectfully solicit allowance of this Claim.

In addition, Barnett makes clear that such "selected hardware configuration" is specified at a very high level, for instance: "each microcontroller variant (target hardware) is preferably implemented as a DLL" (col. 6 lines 34-35) and "software testing tool 100 utilizes the specified hardware configuration to select the appropriate target hardware model DLL" (col. 6 lines 61-64). Thus, Barnett teaches choosing among microcontrollers, not choosing among possible configurations of a particular microcontroller, as recited by Claim 1.

For this additional reason, Applicants respectfully assert that Claim 1 overcomes the objections of record, and respectfully solicit allowance of this Claim.

The rejection argues that Barnett “explicitly impl(ies)... configuring a microcontroller including generating configuration information....” Applicants are confused as to how an implication can be made explicitly as these terms are generally understood to be opposite in nature, and request clarification as to this rejection. However, Applicants respectfully assert that Barnett does not teach or suggest “generating configuration information corresponding to said selected configuration” as recited by Claim 1. Applicants respectfully assert that Barnett teaches the use of pre-existing information describing a microprocessor in contrast to the recited “generating.” For example, Barnett teaches, “each microcontroller variant (target hardware) is preferably implemented as a DLL 210” (column 6 lines 34-35). Applicants respectfully assert that Barnett does not teach generating information responsive to selecting a configuration. Moreover, Barnett does not teach how to construct the requisite DLL structure.

For these still additional reasons, Applicants respectfully assert that Claim 1 overcomes the objections of record, and respectfully solicit allowance of this Claim.

Claims 2-10 depend from Independent Claim 1. Applicants respectfully solicit allowance of these Claims as they depend from an allowable base claim.

With respect to Claim 11, Applicants respectfully assert that Barnett does not teach or suggest, “configuring a microcontroller containing a plurality of dynamically configurable blocks” as recited by Claim 11. Applicants respectfully assert that Barnett is silent with respect to such a microcontroller. In contrast, Barnett’s teachings are based upon microcontrollers exemplified by Intel’s 8051, which are well known to lack the recited “dynamically configurable blocks.”

For this reason, Applicants respectfully assert that Claim 11 overcomes the objections of record, and respectfully solicit allowance of this Claim.

Further with respect to Claim 11, Applicants respectfully assert that this claim overcomes the rejections of record for the rationales presented previously with respect to Claim 1. For these additional reasons, Applicants respectfully assert that Claim 11 overcomes the objections of record, and respectfully solicit allowance of this Claim.

With respect to Independent Claims 22 and 30, Applicants respectfully assert that these claims overcome the rejections of record for the rationales presented previously with respect to Claim 1. For this reason, Applicants respectfully assert that Claims 22 and 30 overcome the objections of record, and respectfully solicit allowance of these Claims.

Claims 23-29 and 30-37 are dependent upon independent Claims 22 and 30, respectively, and incorporate all the limitations therein. Applicants respectfully assert that Claims 23-29 and 30-37 overcome the rejections of record as these claims depend from allowable base Claims. Therefore, Applicants respectfully request allowance of these Claims.

Claims 1-37 [sic] are rejected under 35 USC § 102(e) as allegedly being anticipated by Snyder (US 6,825,689 "Snyder"). Applicants have carefully reviewed the cited reference and respectfully assert that Snyder does not anticipate or render obvious embodiments of the present invention as recited in Claims 1-37.

Applicants note that the Official Action indicates that Claims 12 and 18 are not rejected, but rather are objected to as being dependent upon a rejected base claim. These claims would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to Claim 1, Applicants respectfully assert that Snyder actually teaches away from embodiments of the present invention as recited by Claim 1. For example, at column 4 lines 56-59, Snyder teaches,

Global mapping system 103 is maintained by a control program which supplies the logic to selectively couple I/O pin 102 with functional units of DCSM 106. The programming of the control program is done by the user....

Applicants respectfully assert that Snyder is silent as to the actions performed by the user to create such a control program. Consequently, Snyder teaches configuration of a microcontroller is the result of untaught actions performed by a programmer.

For this reason, Applicants respectfully assert that Claim 1 overcomes the rejections of record, and respectfully solicit allowance of this Claim.

Claims 2-10 depend from Independent Claim 1. Applicants respectfully solicit allowance of these Claims as they depend from an allowable base claim.

Applicants respectfully assert that Claim 11 overcomes the rejections of record for the rationale previously presented with respect to Claim 1, and respectfully solicit allowance of this Claim.

In addition, with respect to Claim 11, Applicants respectfully assert that Barnett does not teach or suggest “wherein said dynamically configurable blocks can be configured to produce a variety of functions” as recited by Claim 11. The teachings of Snyder are limited to “a configurable input/output interface for a microcontroller” (Abstract). Applicants respectfully assert that one of ordinary skill would not find the taught “configurable input/output interface” to teach or suggest the recited “dynamically configurable blocks (that) can be configured to produce a variety of functions” as recited by Claim 11.

For this additional reason, Applicants respectfully assert that Claim 11 overcomes the rejections of record, and respectfully solicit allowance of this Claim.

Claims 12-21 depend from Independent Claim 11. Applicants respectfully solicit allowance of these Claims as they depend from an allowable base claim.

With respect to Claim 22, Applicants respectfully assert that that this Claim overcomes the rejections of record for the rationale previously presented with respect to Claim 1, and respectfully solicit allowance of this Claim.

Claims 23-29 depend from Independent Claim 22. Applicants respectfully solicit allowance of these Claims as they depend from an allowable base claim.

With respect to Claim 30, Applicants respectfully assert that that this Claim overcomes the rejections of record for the rationale previously presented with respect to Claim 1, and respectfully solicit allowance of this Claim.

Claims 31-37 depend from Independent Claim 30. Applicants respectfully solicit allowance of these Claims as they depend from an allowable base claim.

35 U.S.C. § 103 Rejections

Claims 3, 24 and 32 stand rejected under 35 USC § 103 (a) as allegedly being unpatentable over Barnett et al. (US 6,223,144 “Barnett”) in view of Zizzo (US 6,578,174, “Zizzo”). Applicants have carefully reviewed the cited references and respectfully assert that Barnett in view of Zizzo does not render obvious embodiments of the present invention as recited in Claims 3, 24 and 32.

Claims 3, 24 and 32 are dependent upon independent Claims 1, 22 and 30, respectively, and incorporate all the limitations therein. Applicants respectfully assert that Claims 3, 24 and 32 overcome the rejections of record as these claims depend from allowable base Claims. Therefore, Applicants respectfully request allowance of these Claims.

Barnett teaches a “software testing tool” (Abstract), while Zizzo is directed to a “circuit design platform” (Abstract). Applicants respectfully assert that the cited references due to their differences do not suggest the cited combination.

For this reason, Applicants respectfully assert that the combination of Barnett in view of Zizzo is improper. Applicants respectfully assert that Claims 3, 24 and 32 overcome the rejections of record, and respectfully solicit allowance of these Claims.

Further, the Barnett reference is complete and does not seek improvement in the manner suggested in the rejection as a motivation for the combination in view of Zizzo. The rejection suggests that one of ordinary skill in the art would have been motivated to combine Barnett in view of Zizzo "to implement the description of hardware resources with (XML) because (it could be) preferably used as a primary data interface between various components of the design platform." However, Barnett teaches:

According to a feature of the present invention, shown in FIG. 1B, all features of the microcontroller software testing tool 100 can be made accessible by means of a data exchange protocol provided by the operating system, such as the object linking and embedding (OLE) interface provided by Windows NT and Windows 95.

The OLE interface permits data to be shared between applications and provides a programmatic interface that allows the microcontroller software testing tool 100 and related peripherals to be (i) accessed over a local or wide area network; or to be (ii) controlled by third party programs or scripts, such as general purpose controlling programs 120. In this manner, the general purpose controlling programs 120 can load, run and interrogate the microcontroller software testing tool 100 and record results in a standard document. Typically, general-purpose controlling application program(s) 120, such as Microsoft Word or Excel, include a macro language that allows pre-recorded actions to function when required.

In addition, the OLE interface exposes programmatically all the features of the tool. Thus, existing general-purpose office application program(s) 120, such as Microsoft Word or Excel, can integrate the testing of software using the microcontroller software testing tool 100 into documents and permit solutions created using languages that support OLE, such as Basic, Visual Basic, C, C++, Java or Delphi. Furthermore, the OLE interface allows the microcontroller software testing tool 100 to be incorporated into networked, intranet or internet configurations supported by the operating system, such as Windows NT and Windows 95, allowing sharing of the microcontroller software testing tool 100 and peripheral resources to distributed users. (col. 5, lines 16-51)

As such, Barnett singly comprises the benefits that supposedly motivate the suggested combination. For this additional reason, Applicants respectfully assert that the cited references do not suggest combination in the claimed fashion. Applicants respectfully assert that Claims 3, 12, 24 and 32 overcome the rejections of record, and respectfully solicit allowance of these Claims.

Further still, for the rationale presented previously, there is no motivation in the cited references for the suggested combination. For this further reason, Applicants respectfully assert that the combination of Barnett in view of Zizzo does not render obvious claims of the present invention. Applicants respectfully assert that Claims 3, 24 and 32 overcome the rejections of record, and respectfully solicit allowance of these Claims.

In addition, Applicants respectfully assert that Barnett teaches away from Zizzo and from the rejection's suggested combination of Barnett in view of Zizzo by teaching the benefits and use of OLE. For this additional reason, Applicants respectfully assert that the combination of Barnett in view of Zizzo is improper. Applicants respectfully assert that Claims 3, 24 and 32 overcome the rejections of record, and respectfully solicit allowance of these Claims.

In section 17, the rejection argues that:

it would have (been) obvious to one of ordinary skill in the art at the time the invention was made to implement the description of hardware resources with extensible markup language... because the XML language

would be used as a primary data interface between various components of the design platform.

Applicants reiterate that this purpose is well served by OLE in Barnett. Applicants respectfully assert that one of ordinary skill in the art would not be motivated to modify Barnett in the suggested manner to replace such functionality with like functionality. The rejection therefore applies impermissible hindsight to fabricate an embodiment without a described motivation to do so.

For this additional reason, Applicants respectfully assert that Claims 3, 24 and 32 overcome the rejections of record, and respectfully solicit allowance of these Claims.

CONCLUSION

Claims remaining in the present patent application are Claims 1-37. The Applicants respectfully request consideration of the above captioned patent application in light of the remarks presented herein.

The Examiner is invited to contact Applicants' undersigned representative if the Examiner believes such action would expedite resolution of the present Application.

Respectfully submitted,

WAGNER, MURABITO & HAO LLP



Anthony C. Murabito
Reg. No. 35,295

Two North Market Street
Third Floor
San Jose, California 95113
(408) 938-9060

Date: 9/1/2005